Exhibit A

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Astellas Institute for Regenerative Medicine, and Stem Cell & Regenerative Medicine International, Inc., Plaintiffs, v. ImStem Biotechnology, Inc., Xiaofang Wang, and Ren-He Xu, Defendants.	C.A. No. 1:17-cv-12239-ADB Hon. Allison D. Burroughs **AMENDED COMPLAINT** **JURY TRIAL DEMANDED**

[PROPOSED] FIRST AMENDED COMPLAINT

Astellas Institute for Regenerative Medicine and Stem Cell & Regenerative Medicine International, Inc. ("SCRMI") (collectively, "Plaintiffs" or "Astellas") bring this action against ImStem Biotechnology, Inc. ("ImStem"), Xiaofang Wang, and Ren-He Xu (collectively, "Defendants") to correct inventorship on recently issued United States Patent No. 9,745,551 (the "'551 patent," a true and correct copy of which is attached hereto as Exhibit A), United States Patent No. [●] (the "[●] patent," a true and correct copy of which is attached hereto as Exhibit F), and for various state law claims arising from Defendants' actions to wrongfully obtain, misuse, disclose, and claim as their own Astellas's patented mesenchymal stem cell inventions, and allege as follows:

INTRODUCTION

1. This action concerns a pioneering development in the creation of mesenchymal stem cells, useful in treating a number of disorders, in particular, immune disorders such as multiple sclerosis.

2. Astellas/SCRMI scientists have been at the forefront of research regarding regenerative medicine and cell therapy for decades. Since 1994 (then as a biotechnology company named Advanced Cell Technology and later named Ocata Therapeutics), Astellas/SCRMI

scientists have been developing cell therapies for diseases and degenerative conditions that are difficult to treat with traditional pharmacological approaches. For example, in 2007, Astellas/SCRMI scientists Shi-Jiang Lu and Robert Lanza, and others, published an article reporting a groundbreaking method of generating a specific type of progenitor cell, known as a hemangioblast, from human embryonic stem cells. Hemangioblasts are particularly useful in the field of regenerative medicine because they can create additional copies of themselves, can be frozen or cryopreserved for later use, and can be differentiated into a number of different cell types. These cell types—and, indeed, the hemangioblasts themselves—are being developed for the treatment of various diseases or degenerative conditions.

3. Recognizing the value of hemangioblast research, Astellas (then Advanced Cell Technology) and another company created a joint venture, Stem Cell & Regenerative Medicine International, Inc. ("SCRMI"), in 2008 to further develop the hemangioblast program. Following the formation of the new venture, SCRMI scientist, Erin Kimbrel, with input from Dr. Lanza, developed a novel method for making a particular type of stem cell (mesenchymal stem cell) that involved first creating hemangioblasts from embryonic stem cells and then differentiating the hemangioblasts into mesenchymal stem cells. Drs. Kimbrel and Lanza thought that the mesenchymal stem cells they created could be used to treat a variety of diseases, including autoimmune diseases like multiple sclerosis, because these cells secrete a number of bioactive molecules in response to environmental cues, and make contact with and influence the activity of different immune cell populations.

4. During this time period, SCRMI was a small company—so small that it did not have its own animal testing facilities. Thus, in order to test the mesenchymal stem cells *in vivo*, Drs. Kimbrel and Lanza sought out collaborators who could test their cells in different animal

models of relevant diseases. For multiple sclerosis, a commonly used animal model was the Experimental Autoimmune Encephalitis ("EAE") model.

5. Dr. Lu, also a SCRMI employee at the time, knew that one of his acquaintances, Ren-He Xu, and Dr. Xu's then post-doctoral associate, Xiaofang Wang, had access to the EAE model. Dr. Lu reached out to Drs. Xu and Wang regarding a potential collaboration in July 2010. After Dr. Lu made the introduction, Dr. Kimbrel corresponded directly with Drs. Wang and Xu regarding testing the mesenchymal stem cells in the EAE model. In general, Drs. Kimbrel and Lanza provided their proprietary mesenchymal stem cells for the testing, confidential know-how regarding generation or culture of additional mesenchymal stem cells, and direction for use of such cells in the EAE model to Drs. Xu and Wang. The parties agreed in writing that in exchange for providing these proprietary cells, protocols, data and know-how, Defendants would not disclose these materials to third parties. Drs. Kimbrel and Lanza also wrote methods for generating mesenchymal stem cells that were incorporated into a grant application Dr. Xu submitted. That application sought funding for studies to further explore the use of mesenchymal stem cells in the EAE model. In mid-2011, SCRMI transitioned to become a licensing-only entity, and Drs. Kimbrel and Lu became employed by Astellas (then Advanced Cell Technology). Dr. Kimbrel continued her work on mesenchymal stem cells, and the collaboration with Drs. Xu and Wang, in her new position at Astellas.

6. While the test results from the EAE model were positive, discord developed between Drs. Kimbrel and Lanza and Drs. Xu and Wang. Despite the deteriorating relationship, the group worked together to draft an article reporting the results from the EAE studies. The article, a true and correct copy of which is attached hereto as Exhibit B, was published in the journal Stem Cell Reports in July 2014.

7. During the time that the group's relationship was deteriorating, Drs. Xu and Wang formed their own biotechnology company, ImStem Biotechnology, Inc., without informing Drs. Kimbrel and Lanza that they had done so. Drs. Xu and Wang also filed the applications that led to the '551 patent, again without telling Drs. Kimbrel and Lanza. In these applications and patent, Drs. Xu and Wang claim that they invented the method for making mesenchymal stem cells from embryonic stem cells using a hemangioblast intermediate—a method that was, in fact, invented by Drs. Kimbrel and Lanza during their employment by SCRMI and/or Astellas.

8. Astellas and SCRMI bring this action to correct the named inventors on United States Patent No. 9,745,551. The claimed subject matter of the '551 patent is the result of the groundbreaking work of Drs. Kimbrel and Lanza, scientists at Astellas and SCRMI; not Drs. Xu and Wang. Drs. Xu's and Wang's attempt to claim—and own—the work of Drs. Kimbrel and Lanza should be rejected.

NATURE OF THE ACTION

9. This action arises under the patent laws of the United States, specifically 35 U.S.C. § 256. Additional claims arise under Massachusetts state tort law and Massachusetts General Laws c. 93A, §§ 1 and 11.

THE PARTIES

10. Plaintiff Astellas Institute for Regenerative Medicine is a corporation organized and existing under the laws of Delaware with its corporate headquarters at 1 Astellas Way, Northbrook, IL 60062, and its principal place of business at 33 Locke Drive, Marlborough, MA 01752. Astellas Institute for Regenerative Medicine is a wholly owned subsidiary of global pharmaceutical company Astellas Pharma Inc., and is Astellas's global hub for regenerative medicine and cell therapy research in therapeutic areas that have few or no available treatment options.

11. Plaintiff Stem Cell & Regenerative Medicine International, Inc. is a corporation organized and existing under the laws of Delaware with its headquarters at 33 Locke Drive, Marlborough, MA 01752. SCRMI was formed as a joint venture between Astellas Institute for Regenerative Medicine (then-named Advanced Cell Technology, Inc.) and CHA Biotech Co., Ltd. (then-named CHA Bio & Diostech Co., Ltd.), a leading Korea-based biotechnology company. During the time that SCRMI was actively involved in mesenchymal stem cell research, it had a principal place of business at 33 Locke Drive, Marlborough, MA 01752.

12. On information and belief, Defendant ImStem Biotechnology, Inc. is a corporation organized and existing under the laws of Connecticut with a principal place of business at 400 Farmington Ave., R1808, Farmington, CT 06030.

13. On information and belief, Defendant Xiaofang Wang is an individual with a place of business at 19 Hidden Oak Drive, Farmington, CT 06032. On information and belief, Xiaofang Wang is the Chief Technical Officer, Director, and Vice President of ImStem, as well as one of ImStem's founders.

14. On information and belief, Defendant Ren-He Xu is an individual with a place of residence at 19 Hidden Oak Drive, Farmington, CT 06032. On information and belief, Ren-He Xu was the Chief Scientific Officer of ImStem, as well as one of ImStem's founders. Upon information and belief, Ren-He Xu is currently employed by the University of Macau.

SUBJECT MATTER JURISDICTION AND VENUE

15. This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331, 1338, 1367, and 2201.

16. The Court also has jurisdiction pursuant to 28 U.S.C. § 1332, as complete diversity

among the parties exists, and the amount in controversy exceeds $75,000.

17. Venue is proper in this judicial district under 28 U.S.C. § 1391(b)(2). As described further below, a substantial portion of the events or omissions that give rise to the claims occurred within the District of Massachusetts.

PERSONAL JURISDICTION

18. On information and belief, ImStem is registered with the Massachusetts Secretary of the Commonwealth as a corporation that may conduct business in the Commonwealth of Massachusetts. On information and belief, ImStem's Registered Agent in Massachusetts is Xiaofang Wang and the Registered Office for ImStem in Massachusetts is located at 950 Massachusetts Ave., Apt. 217, Cambridge, MA 02139.

19. On information and belief, Xiaofang Wang executed ImStem's 2016 Annual Report for Corporations for the Commonwealth of Massachusetts as the Registered Agent of ImStem and listed 950 Massachusetts Ave., Apt. 217, Cambridge, MA 02139 as the address for ImStem's Registered Office in Massachusetts.

20. On information and belief, ImStem personnel, including Ren-He Xu and Xiaofang Wang, visited the Astellas/SCRMI research facility in Marlborough, Massachusetts at various times as part of the work between Xiaofang Wang, Ren-He Xu, Erin Kimbrel, and Robert Lanza related to the collaboration involving the EAE model of multiple sclerosis. Ren-He Xu and Xiaofang Wang would visit to discuss confidential information regarding use of mesenchymal stem cells in the EAE model and also to acquire cells, reagents, and other materials from Astellas or SCRMI necessary to run the EAE model tests.

21. On information and belief, ImStem personnel Xiaofang Wang and Ren-He Xu

worked together with Astellas or SCRMI personnel Erin Kimbrel, Shi-Jiang Lu, and/or Robert Lanza to draft a grant application to fund studies investigating the effectiveness of hemangioblast-derived mesenchymal stem cells in treating symptoms in the EAE model of multiple sclerosis. On information and belief, ImStem personnel corresponded with Astellas or SCRMI personnel, while they were working at Astellas's/SCRMI's Marlborough facility, throughout the drafting of this grant application. On information and belief, ImStem personnel corresponded with Astellas or SCRMI personnel, while they were working at Astellas's/SCRMI's Marlborough facility, for drafting publications regarding the research performed by Astellas or SCRMI and ImStem.

22. On information and belief, ImStem personnel Xiaofang Wang and Ren-He Xu regularly corresponded with Erin Kimbrel, Shi-Jiang Lu, and/or Robert Lanza while they were working at Astellas's/SCRMI's Marlborough facility, throughout the testing that investigated the effectiveness of hemangioblast-derived mesenchymal stem cells in treating symptoms in the EAE model of multiple sclerosis.

23. On information and belief, ImStem personnel Xiaofang Wang and Ren-He Xu repeatedly requested that Astellas or SCRMI send them reagents and/or other materials for use in culturing hemangioblast-derived mesenchymal stem cells for use in the EAE model of multiple sclerosis; and on several occasions Astellas or SCRMI personnel sent reagents in response to such requests.

24. On information and belief, Xiaofang Wang and Ren-He Xu knowingly travelled into Massachusetts to enter into business with Astellas or SCRMI. Xiaofang Wang and Ren-He Xu knowingly interacted with and then defrauded Astellas and SCRMI, knowing that their facility was in Massachusetts and that they have Massachusetts employees. Xiaofang Wang and Ren-He Xu also knowingly converted information that they knew belonged to companies with facilities in

Massachusetts and constituted Massachusetts intellectual property.

25. The causes of action asserted against ImStem, Xiaofang Wang and Ren-He Xu in this complaint arise from their transacting business in Massachusetts, causing tortious injury by act or omission in Massachusetts, and /or causing tortious injury in Massachusetts by an act or omission outside Massachusetts while regularly doing or soliciting business, or engaging in other persistent course of conduct, or deriving substantial revenue from goods used or consumed or services rendered, in Massachusetts.

26. The Court has personal jurisdiction over ImStem.

27. The Court has personal jurisdiction over Xiaofang Wang.

28. The Court has personal jurisdiction over Ren-He Xu.

FACTUAL BACKGROUND

Plaintiffs' Development of Methods for Generating Mesenchymal Stem Cells

29. Astellas/SCRMI scientists developed a pioneering method of generating a specific type of progenitor cell, known as a hemangioblast, from human embryonic stem cells. Hemangioblasts are particularly useful in the field of regenerative medicine because they can create additional copies of themselves, can be frozen or cryopreserved for later use, and can be differentiated into a number of different cell types. These cell types—and, indeed, the hemangioblasts themselves— are being developed for the treatment of various diseases or degenerative conditions.

30. In 2007, Astellas/SCRMI scientists Shi-Jiang Lu and Robert Lanza, and others, published their work on this original method in the scientific journal Nature Methods. A true and correct copy of this article is attached as Exhibit C. Astellas (then Advanced Cell Technology)

scientists continued improving this method following publication of the Nature Methods article.

31. In 2008, Astellas and another company created a joint venture, Stem Cell & Regenerative Medicine International, Inc. ("SCRMI"), to further develop the hemangioblast program. Scientists at SCRMI continued to work on the hemangioblast program, improving the methods for generating hemangioblasts and developing methods to differentiate hemangioblasts into various types of cells. One such scientist, Erin Kimbrel, with input from Dr. Lanza, developed a novel method for making a particular type of stem cell (mesenchymal stem cells) that involved first creating hemangioblasts from embryonic stem cells and then differentiating the hemangioblasts into mesenchymal stem cells.

32. Drs. Kimbrel and Lanza thought that the mesenchymal stem cells they created could be used to treat a variety of diseases because these cells secrete a number of bioactive molecules in response to environmental cues. In particular, Drs. Kimbrel and Lanza thought that the mesenchymal stem cells they created could be used to treat autoimmune diseases like multiple sclerosis, because these cells make contact with and influence the activity of different immune cell populations.

Plaintiffs' Collaboration with Drs. Xu and Wang

33. Drs. Kimbrel and Lanza could not test their mesenchymal stem cells *in vivo* at SCRMI. At the time, SCRMI was a small company that did not have its own animal testing facilities. As such, for any tests involving animal models, Drs. Kimbrel and Lanza had to find collaborators who had the facilities for and could run tests in animals. For their mesenchymal stem cell work, that meant finding collaborators who had animal facilities and had experience with animal models of autoimmune diseases, such as the commonly used EAE model of multiple

sclerosis.

34. Dr. Lu, also a SCRMI employee at the time, knew that one of his acquaintances, Ren-He Xu, and Dr. Xu's then post-doctoral associate, Xiaofang Wang, had access to the EAE model. Dr. Lu reached out to Drs. Xu and Wang regarding a potential collaboration in July 2010. After Dr. Lu made the introduction, Dr. Kimbrel corresponded directly with Drs. Wang and Xu regarding testing the mesenchymal stem cells in the EAE model.

35. In August 2010, following establishment of the collaboration, Drs. Wang and Xu drove to SCRMI's Marlborough, Massachusetts facility to pick up frozen vials of mesenchymal stem cells that Dr. Kimbrel had made previously and to discuss aspects of the collaboration. Following this meeting, Dr. Kimbrel provided Dr. Wang her confidential protocol for making hemangioblasts from human embryonic stem cells, and for making mesenchymal stem cells from those hemangioblasts. This information was shared on a confidential basis and for the sole purpose of the collaboration, and was not to be exploited outside of this relationship. In December 2010, Drs. Kimbrel and Lu travelled to Dr. Xu's lab for an in-person meeting regarding the collaboration.

36. Following these initial meetings, Drs. Kimbrel and Lu and Drs. Xu and Wang decided to apply for a grant to fund their collaboration. In connection with this grant application, Drs. Kimbrel and Lanza provided narrative text regarding the methods for generating mesenchymal stem cells for a grant application. They also provided Drs. Xu and Wang with data, such as cell surface marker expression, to demonstrate that the cells generated from Dr. Kimbrel's protocol were, in fact, mesenchymal stem cells. This grant application sought funding for studies to explore further the use of mesenchymal stem cells in the EAE model. The grant application recognizes the collaboration with SCRMI, as well as identifying Dr. Lu as a collaborator on the project. Dr. Xu's grant application was not funded.

37. In March 2011, Dr. Wang requested more information regarding mesenchymal stem cell differentiation from Dr. Kimbrel. In response, Dr. Kimbrel provided Dr. Wang with the requested data via email and told Drs. Xu and Wang explicitly not to share or use this data for any purposes outside internal presentations or meetings. She wrote to Dr. Wang that he could not distribute her slides that contained mesenchymal stem cell information to anyone else because they had not yet filed their forthcoming patent on the mesenchymal stem cells and related methods. Dr. Wang agreed to not disclose this information publically.

38. In mid-2011, Drs. Kimbrel and Lu became employed by Astellas (then Advanced Cell Technology) when SCRMI transitioned to become a licensing-only entity. Dr. Kimbrel continued her work on mesenchymal stem cells, and the collaboration with Drs. Xu and Wang, providing them mesenchymal stem cells and information in her new position.

39. Following the transition to Astellas, Dr. Kimbrel sought to memorialize the confidentiality, ownership, and legal rights associated with the parties' collaboration in a Material Transfer Agreement. Though the parties discussed entering into the Material Transfer Agreement, such agreement was never executed. However, throughout the discussions, Drs. Kimbrel, Lu, and Lanza conveyed to Drs. Xu and Wang that the mesenchymal stem cells, and information regarding their generation, was proprietary information of Astellas and/or SCRMI, and Defendants agreed to this understanding. Dr. Kimbrel memorialized the parties' contract covering Astellas's confidential mesenchymal stem cell ("MSC") information and materials that Astellas had shared with Defendants in the course of the collaboration. On December 7, 2011, Dr. Kimbrel sent an email on behalf of Astellas's predecessor, ACT, setting forth written terms under which the collaboration would continue. Specifically, the terms included a confidentiality requirement that specified the obligation that "[d]etailed, proprietary protocols, cells, and preliminary data offered

by ACT must be kept in the strictest confidence [and c]ollaborators are NOT to share any cells or protocols with third parties without the explicit written consent of ACT." Dr. Kimbrel's email expressly stated that Drs. Xu and Wang must comply with the written terms in order for the collaboration to continue, writing "[Dr. Lanza] and the [ACT] board have granted us approval to continue our collaboration with you provided that we can establish and agree to certain details upfront. Due to legal implications and intellectual property rights concerning the very use of our hemangioblast-derived MSCs, we need to to(sic) clearly define and agree upon the intended use of our cells, endpoints of the study, authorship, and itemized budget." Dr. Kimbrel requested that they "[p]lease respond via email and let us know if you agree to the above terms." On December 9, 2011, Dr. Xu responded by email on behalf of himself and Dr. Wang, agreeing to abide by the terms and saying "I don't think I have any problem with these."

40. In connection with the ongoing work testing mesenchymal stem cells in the EAE model, Drs. Wang and Xu requested, and Astellas or SCRMI purchased and provided countless supplies and reagents, including kits used to induce EAE in the test subjects and differentiation related reagents, such as Matrigel Matrix, various antibodies, and hemangioblast-related cytokines (i.e., substances secreted by immune cells and that produce effects on other cells).

41. In March 2012, at the request of Drs. Xu and Wang, Dr. Kimbrel drove to their lab and delivered 5-7 million mesenchymal stem cells for them to use in experiments that were part of the collaboration.

42. In April 2012, Dr. Kimbrel again reminded Drs. Xu and Wang that the mesenchymal stem cell methods and data that she shared with them was proprietary and belonged solely to Astellas or SCRMI. Recognizing that in order for Drs. Xu and Wang to perform their experiments as part of the collaboration, they needed access to this information, Dr. Kimbrel

sought confirmation in writing that Drs. Xu and Wang understood that Astellas or SCRMI owned and controlled the intellectual property regarding the mesenchymal stem cell methods. She wrote in relevant part that she could share her findings only after she received Drs. Xu and Wang's confirmation that they understood Astellas or SCRMI owned such data. She even added that it was critical to the company's existence that the scientific methodology remain proprietary. Dr. Xu agreed to this understanding.

43. While the test results from the EAE model were positive, discord developed between Drs. Kimbrel and Lanza and Drs. Xu and Wang. Despite the deteriorating relationship, the group continued to work together. For example, Dr. Wang continued to contact Dr. Kimbrel with questions regarding problems he was having executing Dr. Kimbrel's protocol and with requests for SCRMI/Astellas to provide him with additional mesenchymal stem cells and reagents for culturing the cells. Dr. Wang also provided data from testing in the EAE model to Dr. Kimbrel. Furthermore, Drs. Xu and Wang continued to travel to Astellas's Marlborough, Massachusetts facility, including at least on February 8, 2013, to meet with Drs. Kimbrel, Lu, and Lanza regarding the data from the EAE model studies and drafting an article reporting the results. The article was published in the journal Stem Cell Reports in July 2014. (Ex. B.)

44. The 2014 Stem Cell Reports article described the results from the EAE model studies, but it did not describe the method used to generate the mesenchymal stem cells that were used in the studies. Instead, the article stated that the mesenchymal stem cells that were used "were generated as described previously. (Kimbrel et al., 2014)." The cited article includes Drs. Kimbrel and Lanza as authors, but it does not include Drs. Xu and Wang. A true and correct copy of this article is attached as Exhibit D.

45. Following publication of the 2014 Stem Cell Reports article, the collaboration

ceased.

Drs. Xu and Wang Form ImStem and File Patent Applications

46. During the time that the group's relationship was deteriorating, Drs. Xu and Wang formed their own biotechnology company, ImStem Biotechnology, Inc., without informing Drs. Kimbrel and Lanza that they had done so. On information and belief, Drs. Xu and Wang incorporated ImStem Biotechnology, Inc. in June 2012. On information and belief, following its incorporation, ImStem obtained its own laboratory space, and sought and was awarded at least $1.13 million in funding for its stem cell research.

47. Also during this time period, Drs. Xu and Wang filed the applications that led to recently issued United States Patent No. 9,745,551, again without telling Drs. Kimbrel and Lanza. These applications include U.S. Provisional Patent Application Nos. 61/670,787 (filed Jul. 12, 2012) and 61/762,961 (filed Feb. 11, 2013), Patent Cooperation Treaty Application No. PCT/US13/48291, and U.S. Patent Application No. 14/413,290. In these applications and the '551 patent, Drs. Xu and Wang claim that they invented the method for making mesenchymal stem cells from embryonic stem cells using a hemangioblast intermediate—a method that was, in fact, invented by Drs. Kimbrel and Lanza.

48. On information and belief, Drs. Xu and Wang were aware that Drs. Kimbrel and Lanza had filed patent applications of their own on the mesenchymal stem cells, methods for generating these cells, and therapeutic uses of these cells. As described above, Dr. Kimbrel informed Drs. Xu and Wang via email that they would be filing their own patent on the mesenchymal stem cells and related methods. Furthermore, during prosecution of the 14/413,290 application, which matured into the '551 patent, the examiner rejected the pending claims as anticipated by an international patent application publication, WO 2013/082543 A1, which lists Drs. Kimbrel and Lanza as inventors. Without disclosing to the examiner that the subject matter

described in their own application was generated as a part of a collaboration with Drs. Kimbrel and Lanza, Drs. Xu and Wang amended their pending claims and "swore behind" the date of the WO 2013/082543 A1 publication. A true and correct copy of the response to examiner and Drs. Xu's and Wang's sworn declaration are attached hereto as Exhibit E. Specifically, Drs. Xu and Wang swore that they were "the original and joint inventors of the subject matter as set forth in the claims, as originally filed in U.S. Application Serial No. 14/413,290," and that they "had possession of the Invention in the United States of America before November 30, 2011, the priority date of WO 2013/082543 to Lanza et al." and "before June 6, 2013, the publication date of WO 2013/082543 to Lanza et al." Both Drs. Wang and Xu signed this declaration on January 12, 2017.

49. U.S. Patent No. 9,745,551 issued on August 29, 2017 naming Ren-He Xu and Xiaofang Wang as sole inventors. (Ex. A.)

50. Through their groundbreaking work, the scientists at Astellas and SCRMI created a novel method for generating substantial numbers of mesenchymal stem cells. This method involves improved culturing parameters for generating hemangioblasts and culturing parameters for generating mesenchymal stem cells from those hemangioblasts. Based on the information Plaintiffs provided to enable Drs. Wang and Xu to run tests using mesenchymal stem cells in a mouse model of multiple sclerosis, Defendants sought—and have obtained—a patent claiming the subject matter of Plaintiffs' inventions. Plaintiffs now seek to undo the damage Defendants have wrought by their usurpation of Plaintiffs' intellectual property.

COUNT I
(Correction of Inventorship for the '551 Patent: Drs. Kimbrel and Lanza as Sole Joint Inventors)

51. Plaintiffs incorporate by reference and reallege Paragraphs 1-50 above as though fully restated herein.

52. Erin Kimbrel and Robert Lanza are the sole joint inventors of the subject matter claimed in the ’551 patent.

53. Through omission, inadvertence, and/or error, Erin Kimbrel and Robert Lanza were not listed as inventors on the ’551 patent and the currently listed inventors on the ’551 patent were improperly listed. The omission, inadvertence, and/or error occurred without any deceptive intent on the part of Erin Kimbrel and Robert Lanza.

54. Unless Defendants ImStem, Xiaofang Wang, and Ren-He Xu are enjoined from asserting that Xiaofang Wang, and Ren-He Xu are the sole inventors of the ’551 patent in violation of U.S. federal patent laws, Plaintiffs will suffer irreparable injury. Plaintiffs have no adequate remedy at law.

COUNT II
(In the Alternative, Correction of Inventorship for the ’551 Patent: Drs. Kimbrel and Lanza as Joint Inventors with the Currently Named Inventors)

55. Plaintiffs incorporate by reference and reallege Paragraphs 1-54 above as though fully restated herein.

56. In the alternative, Erin Kimbrel and Robert Lanza are joint inventors of the subject matter claimed in the ’551 patent and should be added to the individuals currently named as inventors on the ’551 patent.

57. Erin Kimbrel and Robert Lanza were not listed as joint inventors on the ’551 patent without any deceptive intent on the part of Erin Kimbrel and Robert Lanza.

58. Unless Defendants ImStem, Xiaofang Wang, and Ren-He Xu are enjoined from asserting that Xiaofang Wang, and Ren-He Xu are the sole inventors of the 9,745,551 patent in violation of U.S. federal patent laws, Plaintiffs will suffer irreparable injury. Plaintiffs have no

adequate remedy at law.

COUNT III
(Conversion)

59. Plaintiffs incorporate by reference and reallege Paragraphs 1-58 above as though fully restated herein.

60. Plaintiffs invented, owned, and currently own the mesenchymal stem cell technology, related know-how, the mesenchymal stem cell generation and culturing methods, and related intellectual property. Plaintiffs owned this property collectively during all relevant time periods in this suit. Information on the mesenchymal stem cell technology was provided to the Defendants solely for the benefit of the joint collaboration between Drs. Kimbrel and Lanza and Drs. Xu and Wang, and under strict restrictions regarding its use and disclosure. The confidential and proprietary nature of this shared information was acknowledged by Defendants.

61. Defendants assumed dominion and control over Plaintiffs' mesenchymal stem cell technology by claiming it as their own in the '551 patent. By claiming this technology in a patent, Defendants are preventing Plaintiffs from making, using, or selling Plaintiffs' technology that they rightfully own. This constitutes unauthorized and unlawful conversion by Defendants.

62. Plaintiffs became aware of Defendants' intended wrongful use of Plaintiffs' confidential technical information around July 2015, when the patent application publication for Defendants' '551 patent (No. US 2015/0203820) published. On February 4, 2014, Plaintiffs first became aware of WO14011407, an international patent application having a similar disclosure as the '551 patent. However, Defendants' first property rights in their claims to Plaintiffs' mesenchymal stem cell technology did not arise until the '551 patent issued on August 29, 2017. Moreover, Plaintiffs' did not have a right of action to challenge inventorship of Defendants'

pending patent applications. Those rights arose only once the '551 patent issued.

63. As a result of Defendants' wrongful actions, Plaintiffs will suffer imminent and irreparable damages in an amount to be proven at trial. In particular, Plaintiffs have been damaged by losing valuable intellectual property from which Plaintiffs would have derived substantial revenue via licensing and/or selling patented products.

COUNT IV
(Unjust Enrichment)

64. Plaintiffs incorporate by reference and reallege Paragraphs 1-63 above as though fully restated herein.

65. Plaintiffs conferred a benefit on Defendants by providing them valuable intellectual property on mesenchymal stem cells and their generation, and related mesenchymal stem cell confidential information and materials under the boundaries of the collaboration between Drs. Kimbrel and Lanza and Drs. Xu and Wang.

66. Defendants accepted that intellectual property and, indeed, continuously asked Plaintiffs to provide more information and materials, having recognized the benefit that Defendants received by having access to this mesenchymal stem cell intellectual property.

67. Defendants accepted and retained Plaintiffs' valuable intellectual property, and used the intellectual property to their own advantage, at Plaintiffs' expense.

68. Defendants have been and continue to be unjustly enriched by profiting from their wrongful conduct. In particular, Defendants have unlawfully used Plaintiffs' property by asserting inventorship over Plaintiffs' mesenchymal stem cell technology, and deriving an unjust benefit from exploiting Plaintiffs' inventions. It would be inequitable for Defendants to retain these

benefits under these circumstances.

69. Plaintiffs have incurred, and continue to incur, detriment in the form of loss of money and property as a result of Defendants' wrongful use of Plaintiffs' mesenchymal stem cell intellectual property, including the right to any patent based on their own intellectual property. The intellectual property, including the right to any patents based on Plaintiffs' mesenchymal stem cell intellectual property and to any patent documents (including assignment documents), U.S. and foreign, are unique and there is no adequate remedy at law.

70. The harm to Plaintiffs is continuous, substantial and irreparable.

COUNT V
(Unfair Trade Practices Under Massachusetts General Law Chapter 93A)

71. Plaintiffs incorporate by reference and reallege Paragraphs 1-70 above as though fully restated herein.

72. At all relevant times, Plaintiffs and Defendants were engaged in trade or commerce within the meaning of Massachusetts General Laws. c. 93A, §§ 1 and 11. For example, Plaintiffs and Defendants are engaged in trade and business, developing and testing, among other things, stem cell-based therapies for various diseases or degenerative disorders.

73. Defendants have engaged in unfair acts and practices pursuant to Massachusetts General Laws. c. 93A, which include, without limitation, unjust enrichment and conversion, as set forth in this Complaint. For example, Defendants have improperly used Plaintiffs' proprietary information in filing of patent applications whereby they took Plaintiffs' innovations and technologies relating to mesenchymal stem cells for themselves.

74. Defendants' unfair or deceptive acts or trade practices have occurred primarily and

substantially in Massachusetts. For example, Defendants' unfair or deceptive acts have been received and acted upon by Plaintiffs in Massachusetts where Plaintiffs reside and where the development of Plaintiffs' innovations and technologies relating to mesenchymal stem cells occurred. The harm and losses caused by Defendants' unfair or deceptive acts have also been incurred in Massachusetts.

75. The Defendants' unlawful actions of taking Plaintiffs' intellectual property and passing it as their own by filing patent applications that included that technology as described herein were willful and knowing. These actions were immoral, unethical, oppressive, and/or unscrupulous.

76. As a direct and proximate result of the foregoing willful unfair acts and practices of Defendants, Plaintiffs have suffered and will continue to suffer significant harm in the form of loss of money or property, such as the loss of value of the rights to any patents based on Plaintiffs' mesenchymal stem cell intellectual property and proprietary information, and any revenue derived from licenses to that property.

COUNT VI
(Misappropriation of Trade Secrets)

77. Plaintiffs incorporate by reference and reallege Paragraphs 1-76 above as though fully restated herein.

78. In the course of the collaboration between Drs. Kimbrel and Lanza and Drs. Xu and Wang, Defendants obtained confidential scientific information relating to mesenchymal stem cells from Plaintiffs. Such information constitutes trade secrets of substantial economic value. This confidential technical information was not known to the public or to other persons who can obtain economic value from its disclosure or use. This information constituted a trade secret.

79. Defendants knew the technical information was confidential, as Dr. Kimbrel specifically informed Drs. Xu and Wang at least twice that the information given to them was to be held in confidence, for internal use only, and was not to be used for any other purpose beyond those necessary to carry out experiments pursuant to their collaboration. Plaintiffs took reasonable steps to preserve secrecy via these explicit guidelines regarding confidentiality and by limiting the number of collaborators that Plaintiffs allowed to access this information. Moreover, Plaintiffs also had systems in place to maintain confidentiality with respect to third parties, by, for example, limiting access to their office and laboratory facilities to only those individuals issued security keycards and their escorted guests.

80. Defendants' inclusion of Plaintiffs' confidential technical information in the '551 patent is unauthorized. As recently as January 12, 2017, Defendants have wrongly sworn that Plaintiffs' confidential technical information is their own by declaring to the United States Patent and Trademark Office that they were the original and joint inventors of the subject matter as set forth in the claims of the '551 patent and that they had possession of their alleged invention prior to the publication of patent applications identifying Drs. Kimbrel and Lanza as inventors of the same subject matter. Even ignoring that Defendants have improperly claimed this information as their own, through their public filings Defendants have disclosed the confidential technical information without the express or implied consent of Plaintiffs. The acts of taking Plaintiffs' confidential information, claiming it as Defendants', and submitting it in public filings were improper means in breach of a confidential relationship. Further, Drs. Xu and Wang agreed to abide by Plaintiffs' confidentiality terms, only to violate these terms in secret. Drs. Xu's and Wang's deception led to Plaintiffs continuing to disclose confidential information to Defendants.

81. As a result of the misappropriation of Plaintiffs' trade secrets and intended

immediate use by the Defendants, Plaintiffs have suffered and will suffer imminent and irreparable damages in an amount to be proven at trial.

COUNT VII
(Negligent Misrepresentation)

82. Plaintiffs incorporate by reference and reallege Paragraphs 1-81 above as though fully restated herein.

83. In connection with the collaborative work involving testing mesenchymal stem cells in the EAE model, Drs. Kimbrel and Lanza told Drs. Xu and Wang that the cells, protocol, mesenchymal stem cell generation and culturing information and mesenchymal stem cell data were proprietary to Plaintiffs and not to be used or shared outside of internal presentations ImStem might prepare regarding the EAE model tests. Drs. Xu and Wang both gave their assertions that they would abide by this confidentiality. On information and belief, Drs. Xu and Wang did so despite then later recklessly incorporating Plaintiffs' methods and data into their own work and patent applications and swearing, as recently as January 12, 2017, that Plaintiffs' methods and data are their own. Plaintiffs relied on Drs. Xu's and Wang's assurances of confidentiality and continued to share mesenchymal stem cells methods and data.

84. If Plaintiffs had known that Drs. Xu and Wang were, in fact, incorporating Plaintiffs' methods and data secretly into their own patent applications to claim them as wholly ImStem intellectual property, Plaintiffs would not have continued working and sharing intellectual property with ImStem. Plaintiffs suffered a pecuniary loss based on this reliance including the loss of potential patent rights, and the costs of Plaintiffs' know-how converted under the guise of collaboration.

COUNT VIII

(Breach of Contract)

85. Plaintiffs incorporate by reference and reallege Paragraphs 1-84 above as though fully restated herein.

86. In connection with the collaborative work involving testing mesenchymal stem cells in the EAE model, Astellas entered into a contract with Defendants whereby Astellas would provide their proprietary hemangioblast-derived mesenchymal stem cells, protocols, data and know-how to Defendants to run agreed upon experiments. In exchange, Defendants agreed that the [d]etailed, proprietary protocols, cells, and preliminary data offered by ACT would be "kept in the strictest confidence" and that they would not "share any cells or protocols with third parties without the explicit written consent of ACT." This contract was entered into both implicitly and explicitly through email communications between the parties.

87. The consideration for this contract was the continued access and assistance Astellas would provide with respect to its novel hemangioblast-derived mesenchymal stem cell protocols, cells, data and know-how. Without Astellas, Defendants had no access to any mesenchymal stem cells or technology.

88. Astellas did in fact perform its part of the contract by providing materials and assistance on a going forward basis, including but not limited to the proprietary hemangioblast-derived mesenchymal stem cell protocols, cells, data and know-how to Defendants.

89. Defendants breached this contract through conduct including but not limited to disclosing confidential protocols to third parties, including the United States Patent and Trademark Office and ImStem, and allowing the information to be published as part of a patent application. Defendants further breached this contract by using the proprietary mesenchymal stem cells protocol, data, and know-how as a basis to start their own company, ImStem, to solicit funding for

ImStem, and to apply for grants.

90. Astellas was harmed as a result of this breach, including for instance by the loss of value of the rights to any patents based on Plaintiffs' mesenchymal stem cell intellectual property and proprietary information, and the loss of time and expenses spent on the deceptive collaboration.

JURY DEMAND

91. Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiffs hereby demand a jury trial on all claims so triable herein.

PRAYER FOR RELIEF

92. WHEREFORE, Plaintiffs respectfully request that this Court enter judgement in their favor as follows:

A. An order that the Director of the United States Patent and Trademark Office correct the inventorship of United States Patent No. 9,745,551 to name Erin Kimbrel and Robert Lanza as the sole inventors, or, in the alternative, as joint inventors to the individuals currently listed as inventors on the '551 patent;

B. Alternatively, an order that Defendants sign the requisite documents to correct inventorship of United States Patent No. 9,745,551 to name Erin Kimbrel and Robert Lanza as the sole inventors, or, in the alternative, as joint inventors to the individuals currently listed as inventors on the '551 patent;

C. A declaration that Erin Kimbrel and Robert Lanza are the sole inventors, or, in the alternative, are joint inventors to the individuals currently listed as inventors on the '551 patent;

D. A preliminary and a permanent injunction enjoining Defendants ImStem, Xiaofang Wang, and Ren-He Xu from asserting that Drs. Wang and Xu are the sole inventors of United States Patent No. 9,745,551 in violation of the United States federal patent laws.

E. An order that Defendants immediately transfer to Plaintiffs all right, title, and interest in all information, patent applications, patents, technology, products, and other materials in the possession, custody, or control of Defendants that wrongfully constitute, contain, were based on, and/or derived in whole or in part from the use of Plaintiffs' intellectual property;

F. An order for a constructive trust over all information, patent applications, patents, technology, products, and other materials in the possession, custody, or control of Defendants that wrongfully constitute, contain, were based on, and/or derived in whole or in part from the use of Plaintiffs' intellectual property;

G. Compensatory damages (including Plaintiffs' consequential damages, disgorgement of Defendants' ill-gotten profits, Defendants' unjust enrichment, payment of a reasonable royalty, and/or reliance damages) in an amount to be determined at trial, with interest;

H. An award of the amount by which Defendants have been unjustly enriched by ownership of patents on Plaintiffs' technology;

I. An award of enhanced and punitive damages as permitted by law, including Massachusetts General Law Chapter 93A;

J. A finding that this is an exceptional case warranting imposition of attorney fees against Defendants and an award to Plaintiffs of their reasonable costs and attorneys' fees incurred in bringing this action pursuant to 35 U.S.C. § 285; and

K. An award of such other and further relief as the Court may deem just and proper.

Dated: September [●], 2019

Respectfully submitted,

/s/ David P. Frazier

Charles H. Sanders (BBO# 646740)
LATHAM & WATKINS LLP
John Hancock Tower, 27th Floor
200 Clarendon Street
Boston, MA 02116
Telephone: (617) 948-6022
Facsimile: (617) 948-6001
charles.sanders@lw.com

Michael A. Morin (pro hac vice)
David P. Frazier (pro hac vice)
Rebecca L. Rabenstein (pro hac vice)
LATHAM & WATKINS LLP
555 Eleventh Street, NW, Suite 1000
Washington, DC 20004
Telephone: (202) 637-2200
Facsimile: (202) 637-2201
michael.morin@lw.com
david.frazier@lw.com
rebecca.rabenstein@lw.com

Lauren K. Sharkey (pro hac vice)
LATHAM & WATKINS LLP
330 North Wabash Avenue, Suite 2800
Chicago, IL 60611
Telephone: (312) 876-7700
Facsimile: (312) 993-9767
lauren.sharkey@lw.com

Counsel for Plaintiffs